Preventing aggression in persons with dementia

Vi T. Nguyen, BA; Almer Ray Love, MD; Mark E. Kunik, MD, MPH

Persons with dementia often present with noncognitive clinical symptoms, such as aggression, which can be distressing and dangerous to both caregiver and patient. Depression, pain, caregiver burden, and the quality of the caregiver-patient relationship can contribute to the onset of aggression. Given the risks involved with medication, there is a strong need for preventive and nonpharmacological interventions before such behaviors occur. This article gives practical recommendations for primary care physicians on how to prevent aggression in dementia patients by screening for and treating predictive factors. Clinically useful assessment instruments and treatment options are discussed, in addition to referral sources.

Nguyen VT, Love AR, Kunik ME. Preventing aggression in persons with dementia. *Geriatrics*. 2008;63(10)21-26.

Key words: aggression, dementia, geriatric assessment, pain, depression, caregiver, psychotherapy

Drugs discussed: acetaminophen, citralopram, sertraline

Ms Nguyen is a medical student at Texas A&M Health Science Center College of Medicine, College Station, Texas.

Dr Love is a geriatrician and staff physician at the Michael E. DeBakey Veterans Affairs Medical Center, Houston, Texas, and is an Assistant Professor in the Department of Medicine at Baylor College of Medicine, Houston.

Dr Kunik is Associate Director, Houston Center for Quality of Care & Utilization Studies; and Associate Director, Research Training, VA South Central Mental Illness Research, Education & Clinical Center (MIRECC). He is Professor, Menninger Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine.

Disclosure: The authors state that they have no financial conflicts of interest to disclose.

Dementia is a major public health concern, especially with the growing aging population. The incidence of dementia increases with age, and it was estimated to affect 24.3 million individuals worldwide in 2005 and predicted to rise to 81.1 million by 2040.[1]

Dementia is a multidimensional disease, characterized by cognitive, psychological, and behavioral symptoms. One symptom, aggression, may have negative consequences, such as increased caregiver stress, excess disability, threats to the health and safety of others, and institutionalization.[2] Even though aggression is associated with severity of dementia, it occurs in all stages of the illness.[3] Prevalence of aggression in persons with dementia is estimated in the 30-50% range, and treatment with antipsychotic medications is often initiated at the onset of aggressive behaviors.[3,4] However, concerns have been raised about the limited efficacy and significant risks of morbidity and mortality associated with these drugs.[4]

Therefore, an effort is needed to identify predictors of aggression and implement preventive and nonpharmacologic interventions. Although multiple etiologies have been posited for aggression, including delirium, psychosis, frontal-lobe dysfunction, and executive dysfunction, 4 treatable factors have recently been identified in a prospective, longitudinal study [3]: depression, pain, caregiver burden, and quality of the caregiver-patient relationship. These predictive factors are often not addressed and they can be treated with both pharmacological and nonpharmacological therapies.

Depression

Depression is a common complication in dementia and has been estimated to occur in 25% of dementia patients.[5] Studies have implicated a strong relationship between aggression and depression.[3] Therefore, active assessment and treatment of depression by primary care providers may preempt aggressive behaviors.

Screening Family physicians fail to recognize depression in 30-50% of patients, perhaps because of unfamiliarity with assessment tools or a belief that they may be too time consuming.[6] However, screening tools do not need to be difficult or time consuming to administer. Many short and effective screens are available to assess depression in a

Table 1 Web links of selected self-report questionnaires for screening predictive factors of aggression

Instrument	Web links
Depression	
PHQ-2	http://health.utah.gov/rhp/pdf/PHQ-9%20two%20question.pdf
PHQ-9	http://www.cqaimh.org/pdf/tool_phq9.pdf
Zung Self-Rating Depression Scale	http://healthnet.umassmed.edu/mhealth/ZungSelfRatedDepressionScale.pdf
Geriatric Depression Scale	http://www.stanford.edu/~yesavage/Testing.htm
Cornell Scale for Depression In Dementia	http://www.qualitynet.org/dcs/ContentServer?cid=1116947564848&pagename=Medqic%2FMQTools%2FToolTemplate&c=MQTools
Pain	
Iowa Pain Thermometer	http://www.painknowledge.org/physiciantools/Pain_Thermometer/Iowa%20Pain%20Thermometer%20Scale.pdf
NOPPAIN*	http://nursinghomes.tmf.org/Portals/16/Documents/NH/Toolkits/Pain/PainMgmtpad.pdf
Caregiver-patient Relationship	
MBRC Caregiver Strain Instrument	Reproduced in Table 2.

Key: PHQ, Patient Health Questionnaire; NOPPAIN, The Non-Communicative Patient's Pain Assessment Instrument; MBRC, Margaret Blenkner Research Center

*NOPPAIN is a not a self-report instrument.

Created for *Geriatrics* by authors

primary care setting (Table 1, above). One useful measurement is the Patient Health Questionnaire-2 (PHQ-2), which includes 2 questions: (1) "Over the past month, have you often been bothered by feeling down, depressed or hopeless?" and (2) "Over the past month, have you often been bothered by little interest or pleasure in doing things?"[7,8] If a patient answers yes to either question, he or she should then answer the 9 questions of the Patient Health Questionnaire-9 (PHQ-9) to evaluate depression severity.[6,9]

Other short 3- to 5-minute, self-administered questionnaires include the Zung Self-rating Depression Scale and the Geriatric Depression Scale.[10,11] Both have been used in the elderly population.[12] The latter has been tested on persons with mild dementia and consists of yes/no questions assessing mood and cognition.[11,13] The Cornell Scale for Depression in Dementia, which is interviewer administered, can also be helpful.[14] It elicits information from both the patient and caregiver. Patients with depression should also be evaluated for suicide risk.

In persons with severe dementia, assessing depression can be difficult. Cognitively impaired persons may be unable to reliably respond to self-rating questionnaires, and depression may go undetected or underestimated.[13] In these cases, the physician can also elicit the caregiver's ratings and observations to best diagnose depression. Caregivers are an important source of information about patients' behavioral or somatic problems, especially concerning sleep, appetite, and activity-level changes.

Treatment Primary care physicians need to consider patient preferences, situation, and capabilities to make treatment decisions. Physicians should also evaluate other physical and environmental contributors to depression, such as hypothyroidism, constipation, pain, caregiver insensitivity, environmental instability, and life stressors, to determine the most appropriate treatment.[15]

Treatment for depression often involves pharmacological and non-pharmacological interventions. Non-pharmacological interventions are effective and recommended as first-line treatment.[15] Encourage caregivers to develop a realistic daily routine for the patient to gradually reconnect him/her to enjoyable activities and people. Simple activities are recommended, such as self-expression and crafts, music, mild exercise, reminiscing with photos, religious activities, and visiting people and places.[2] Caregivers can support the patient by giving him/her one-on-one attention, acknowledging his/her feelings, finding ways that he/she can contribute to family life, and showing him/her love and appreciation.

After a trial of these nonpharmacological interventions, and particularly for moderate or severe depression and/or severe dementia, antidepressants can be prescribed. Selective serotonin reuptake inhibitors, such as sertraline or citralopram, are a preferred initial treatment because of low side effects[15] and ease of dosing.

Pain

Pain is a prevalent problem in the elderly and in persons with dementia and, left untreated, can lead to additional cognitive and behavioral symptoms.[16] Persons with dementia may resort to aggressive behaviors because they cannot articulate their discomfort to others. Therefore, it is crucial to detect and treat pain before aggressive behaviors occur.

Screening Assessment of pain in persons with dementia poses many challenges because of their unique cognitive and verbal impairments. However, pain can be assessed in a primary care setting through administered assessments specifically designed for persons with such impairments (Table 1). One validated self-report tool for older adults with cognitive deficits is the Iowa Pain Thermometer, which assesses pain intensity.[17] The patient indicates the degree of pain by marking on a thermometer graphic with verbal descriptors of pain intensity. In addition, because older adults often deny experiencing pain, physicians may consider asking the patient whether he or she experiences "aching" or "hurting" instead of "pain."

In some cases, PCPs must rely more on observation-based assessments for cognitively impaired patients who cannot verbalize pain. Observe for common pain behaviors, including facial expressions (eg, frowning, grimacing, distorted expression, rapid blinking), verbalizations/vocalizations (eg, sighing, moaning, calling out, verbal abuse), body movements (eg, tension, guarding, fidgeting, increased pacing/rocking, gait or mobility changes), changes in interpersonal interactions (eg, being aggressive, resisting care, being disruptive, being withdrawn), changes in activity patterns (eg, appetite change, sleep change, sudden cessation of common routines), and mental status (eg, crying, increased confusion, irritability, distress).[18]

The Non-Communicative Patient's Pain Assessment Instrument (NOPPAIN) is an example of a valid observational scale that evaluates some of these behaviors and is appropriate for use with dementia patients.[19] It is a brief measure that can be easily administered by nursing assistants. Regardless of the type of screen, positive screens should be followed by careful, comprehensive physical and psychosocial evaluation to detect causes for reported pain or observed behaviors.

Unrelieved pain in cognitively impaired persons increases the likelihood of aggression.

Treatment Pain in cognitively impaired persons often goes unrecognized and unrelieved, thereby increasing the likelihood of aggression. So, once pain is recognized, it should be treated immediately.[18] Several pharmacological and nonpharmacological treatment options exist for pain management.

A nonpharmacological option, cognitive behavioral therapy (CBT), has been found efficacious for persons with pain; and pilot studies have found CBT to be efficacious in persons with mild-to-moderate dementia.[20,21] CBT can be implemented at a low cost and low risk of harm over a short period of time. Components include relaxation techniques, distraction methods, pleasant activity scheduling and pacing, and cognitive restructuring to help patients recognize the relationship between pain symptoms, cognitions and behaviors, and to challenge negative pain thoughts.[20,22]

Some simple and quick techniques of cognitive restructuring can be useful during brief office appointments. Begin by asking the patient about pain-related beliefs to identify erroneous thoughts. If unrealistic beliefs are revealed (eg, "Because I have pain, I can never be happy," or "I'll never be able to walk or do any type of exercise again"), additional education about symptoms and treatments may encourage realistic thinking.[22] Also, physicians can teach patients how to come up with coping self-statements, such as "Yes, I have pain, but there are things that I can do to increase the quality of my life…"[22] These skills help patients have a realistic and optimistic outlook regarding their condition and manage their pain more effectively. Similarly, CBT can be modified for treating depression.[23]

Simple distraction techniques, such as focusing on a hobby or movie, counting, or imagery exercises, can also be useful. The latter may help counter negative images of pain and give mental relief. For example, ask the patient to describe what the pain feels like. A reply might be, "It feels like my back is on fire."[22] Encourage the patient to imagine taking a bucket of water to douse the pain or to imagine being in a comfortable environment like the beach.

In addition, relaxation techniques, such as diaphragmatic abdominal breathing, can be taught in a few minutes by a PCP.[22] Instruct the patient to take slow, deep breaths to the diaphragm, not the chest. Chest breathing can worsen pain and is associated

Table 2 Five questions from MBRC Caregiver Strain Instrument to assess relationship strain

Please use the following scale to answer questions 1-5. There are no right or wrong answers.

Strongly agree = 3
Agree = 2
Disagree = 1
Strongly disagree = 0

During the past four weeks, because of helping the patient, I felt:

1. ____that he/she tried to manipulate me.
2. ____that my relationship with him/her was strained.
3. ____that he/she made requests over and above what he/she needed.
4. ____resentful toward him/her
5. ____angry toward him/her

Scores greater than 10 may indicate heightened risk and warrant further clinical investigation.

Key: MBRC, Margaret Blenker Research Center

Data derived from Kraus CA et al[23] and Work Group on Alzheimer's disease[24]

Created for *Geriatrics* by authors

with anxiety and tension. Place the patient's hand on his/her abdomen; and say that, while he/she is breathing, he/she should notice the hand moving. With practice, the patient should be able to achieve a state of relaxation and have better control over pain. Lastly, exercise and paced activity scheduling are essential in managing chronic pain. Physicians and physical therapists can create a modified exercise plan to meet the patient's capabilities, needs, and interests.

As a supplement to nonpharmacological treatment, or for patients who have severe cognitive impairment, pharmacological treatment is available. Acetaminophen is effective for patients with mild pain and is an inexpensive option with minimal side-effects.[22] Nonsteroidal anti-inflammatory drugs (NSAIDs) and prescription opioids may help reduce moderate or severe pain, but long-term use may cause side effects. More information can be found online in a guideline for managing pain in older persons by the American Geriatrics Society (http://www.americangeriatrics.org/products/positionpapers/JGS5071.pdf).[24] Regardless of the type of treatment, the physician needs to work with each patient to develop an individualized pain-management plan that provides the best relief and fewest side effects.

Caregiver burden and caregiver-patient relationship

The two other predictors of aggression in persons with dementia are caregiver burden and quality of the caregiver-patient relationship. Burden refers to the physical and emotional toll of caregiving. Caregivers have higher rates of anxiety, depression, sleep and appetite problems, medical illness, usage of prescription drugs, and mortality than noncaregivers.[2] Understandably, these stresses can strain the caregiver-patient relationship. Research suggests that low relationship quality and high burden are associated with increased patient behavioral problems.[3] Thus, screening and intervening to improve the caregiver relationship and alleviate burden may help prevent aggression in persons with dementia.

Screening Every visit with a patient with dementia should include screening the caregiver by asking questions to determine how he/she is coping, whether he/she needs more support, and the health of his/her relationship with the patient. Questions can be simple, such as, "Tell me what it was like when your loved one developed memory problems?" "How are you able to care for him/her?" or "Describe your relationship." One-on-one interviews allow caregivers to be more truthful about problems.

Physicians should also be vigilant in screening for signs of caregiver burden. Common signs include feelings of exhaustion, guilt, anger, and anxiety; social withdrawal and isolation; impaired sleep and concentration; increased health problems; and a decline in caregiving.[24] Two brief assessment tools are available to evaluate burden and relationship. Five questions from the Margaret Blenkner Research Center (MBRC) Caregiver Strain Instrument assess for strain in the caregiver-patient relationship (Table 2, above).[25,26] The Mini-Burden Interview has 7 questions to assesses the caregiver's perception and experience of burden (eg, "Have you had difficulty sleeping? Eating?") with 3 more questions on potential causes of burden (eg, "Does your loved one have behavioral problems? Paranoia?").[2]

Treatment An important task in caring for a person with dementia is caring for the caregiver, whose health and well-being have a great impact on the patient's well-being and care. The role of a physician is to offer emotional and practical support, to listen, and to refer to needed resources. Keep in mind that caregivers may feel overwhelmed, confused, or even angry. They often experience a sense of personal loss and

struggle to understand the drastic personality or behavioral changes in their loved one. A physician can provide critical support to a distraught caregiver by being caring and sensitive to his or her needs.

Treatments to help caregivers are mostly nonpharmacological. However, in circumstances when the caregiver is in significant distress, the physician may want to consider referral to a mental health professional or to prescribe pharmacological agents for sleep problems, anxiety, or depression.

Useful nonpharmacological strategies for helping caregivers care for persons with dementia can be summed up in the mnemonic: Educate, Empower, Environmental, Engage, Energize, and End points.[2] Educate caregivers about the disease and resources. Empower them with skills to improve dementia care. Some useful tips include developing a flexible daily routine, using simple language to enhance communication, and labeling items to facilitate memory. Assist caregivers in identifying potential environmental hazards in the home to protect the patient. Engage caregivers and patients with stimulating and pleasurable activities. Encourage the caregiver to take respite time and tend to his/her needs, thereby energizing his/her ability to be a better caregiver. Lastly, gradually prepare the caregiver for end points, such as hospice or long-term care.

In addition to these strategies, physicians can refer caregivers to several programs that help to reduce burden and strengthen the caregiver-patient relationship. These programs include strategies for coping with frustration or depression, exercise interventions, stress-management techniques, and support groups.[24] Organizations such as the Alzheimer's Association (http://www.alz.org) and the Alzheimer's Disease Education and Referral Center (ADEAR) (http://www.nia.nih.gov/Alzheimers) provide valuable information about local resources, and offer caregiver-support services, hot-lines, and educational information.

Summary

Primary care physicians can help prevent aggressive behaviors by screening and treating predictive factors—depression, pain, caregiver burden, and caregiver-patient relationship. Several time-efficient assessment tools can help to identify these factors, and both pharmacological and nonpharmacological treatments are available. This process can be accomplished even in a busy office with the help of nurses or medical assistants for screening and, if available, social workers or mental health providers for resources and counseling. Efforts made by a primary care team can immensely improve the quality of life for persons with dementia and their caregivers by preventing aggression.

References

1. Ferri CP, Prince M, Brayne C, et al. Global prevalence of dementia: a Delphi consensus study. *Lancet*. 2005;366(9503):2112-2117.
2. Agronin ME. Practical Guides in Psychiatry: Dementia. Philadelphia, PA: Lippincott Williams & Wilkins; 2004.
3. Kunik ME, Snow L, Davila JA, et al. High incidence of aggression in persons with dementia. Presented at the American Association for Geriatric Psychiatry 2008 Annual Meeting; March 14-17, 2008; Orlando, FL.
4. Schneider LS, Tariot PN, Dagerman KS, et al. Effectiveness of atypical antipsychotic drugs in patients with Alzheimer's disease. *N Engl J Med*. 2006;355(15):1525-1538.
5. Ballard C, Bannister C, Solis M, et al. The prevalence, associations and symptoms of depression amongst dementia sufferers. *J Affect Disord*. 1996;36(3-4):135-144.
6. Thibault JM, Steiner RW. Efficient identification of adults with depression and dementia. *Am Fam Physician*. 2004;70(6):1101-1110.
7. Spitzer RL, Williams JB, Kroenke K, et al. Utility of a new procedure for diagnosing mental disorders in primary care. The PRIME-MD 1000 study. *JAMA*. 1994;272(22):1749-1752.
8. Whooley WA, Avins AL, Miranda J, et al. Case-finding instruments for depression: two questions are as good as many. *J Gen Intern Med*. 1997;12(12):439-445.
9. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med*. 2001;16(9):606-613.
10. Zung WW. A self-rating depression scale. *Arch Gen Psychiatry*. 1965;12(1):63-70.
11. Yesavage JA, Brink TL, Rose TL, et al. Development and validation of a geriatric depression screening scale: a preliminary report. *J Psychiatr Res*. 1983;17(1):37-49.
12. Dunn VK, Sacco WP. Psychometric evaluation of the Geriatric Depression Scale and the Zung Self-Rating Depression Scale using an elderly community sample. *Psychol Aging*. 1989;4(1):125-126.
13. Ott BR, Fogel BS. Measurement of depression in dementia: self vs clinician rating. *Int J Geriatr Psychiatry*. 1992;7(12):899-904.
14. Alexopoulos GS, Abrams RC, Young RC, Shamoian CA. The Cornell Scale for Depression in Dementia. *Biol Psychiatry*. 1988;23(3):271-284.
15. Lyketsos CG, Olin J. Depression in Alzheimer's disease: overview and treatment. *Biol Psychiatry*. 2002;52(3):243-252.
16. Zwakhalen SM, Hamers JP, Abu-Saad HH, et al. Pain in elderly people with severe dementia: a systematic review of behavioural pain assessment tools. *BMC Geriatr*. 2006;6(3).
17. Kerr KA, Spratt K, Mobily PR, et al. Pain intensity assessment in older adults: use of experimental pain to compare psychometric properties and usability of selected pain scales with younger adults. *Clin J Pain*. 2004;20(4):207-219.
18. AGS Panel on Persistent Pain in Older Persons. The management of persistent pain in older persons. *J Am Geriatr Soc*. 2002;50(6 Suppl):S205-S224.
19. Snow AL, Weber JB, O'Malley KJ, et al. NOPPAIN: a nursing assistant administered pain assessment instrument for use in dementia. *Dement Geriatr Cogn Disord*. 2004;17(3):240-246.
20. Keefe FJ. Cognitive behavioral therapy for managing pain. *Clin Psychol*. 1996;49(3):4-5.
21. Kraus CA, Seignourel P, Balasubramanyam V, et al. Cognitive-behavioral treatment for anxiety in patients with dementia: Two case studies. *J Psychiatr Pract*. 2008;14(3):186-92.
22. Hadjistavropoulos T, Hadjistavropoulos HD. Pain Management for Older adults: A Self-Help Guide. Seattle, WA: IASP Press; 2008.
23. Kraus CA, Kunik ME, Stanley MA. Use of cognitive behavioral therapy in late-life psychiatric disorders. *Geriatrics*. 2007;62(6):21-26.
24. American Psychiatric Association. Work Group on Alzheimer's Disease and other Dementias. Practice guideline for the treatment of patients with Alzheimer's disease and other dementias of late life. 2nd ed. *Am J Psychiatry*. 2007;164(12 Suppl):5-56.
25. Bass DM, Noelker LS, Rechlin LR. The moderating influence of service use on negative caregiving consequences. *J Gerontol B Psychol Sci Soc Sci*. 1996;51(3):S121-S131.
26. Bass DM, McClendon G, Deimling GT, et al. The influence of diagnosed mental impairment on family caregiver strain. *J Gerontol*. 1994;49(3):S146-S155.

Geriatrics®
BETTER MEDICINE FOR MIDLIFE AND BEYOND

Information for Authors

General information

Geriatrics is a monthly medical journal for primary care physicians, geriatricians, and long-term care professionals who manage the health care needs of mature and older adults.

The mission of *Geriatrics* is to provide our 70,000+ readers with clinical tools they can use in their practices to deliver quality care for patients aged 50 and older in the community and long-term-care settings. *Geriatrics* is peer reviewed and indexed in *PubMed/Medline* and *Current Contents.*

The editors of *Geriatrics* seek review-style articles by MD or DO authors relating to the care of patients aged 50 and older.

Please note:
We do not publish original research or case reports.

Manuscripts should be written in a conversational style and target the practical day-to-day needs of primary care physicians. All authors must disclose all affiliations with or financial interest in any organization or entity with a financial interest in the subject matter under discussion.

At least 1 author must be of assistant professor ranking or higher. Resident, fellow, instructor, and practicing physician coauthors are welcome. Provide full name, principal academic titles, address, e-mail, and phone and fax numbers of all authors.

Format

Acceptable manuscripts are about 2000 words (8-10 pages) in length. Include an abstract of about 125 words summarizing the main points of the article. Tables and figures should be included at the end of the manuscript. Article submission via e-mail attachment is preferred.

Send articles to Margaret Mulligan, at mmulligan@advanstar.com.

References

Limit references to 20 citations. Cite references in the text in numerical sequence. Please follow AMA style (10th edition). The reference list should go immediately after the body of the article but before the tables and figures.

Illustrative materials

Submission of the author's unpublished photos, graphs, charts, and tables is encouraged, especially color photos of clinical entities being discussed. Photos must be identified with the author's name, and the top of the photo must be indicated.

Authors are not charged for illustrations published with their papers; art selection is determined by the editor. Illustrative materials supplied by the author must be referred to in the text, and figure captions must be supplied.

Manuscript acceptance

Manuscripts are considered for acceptance only if contributed solely to *Geriatrics*.

The edited version of accepted manuscripts is sent to authors for approval prior to publication. On acceptance, authors will be asked to sign a copyright statement.

Reprints

Each author receives 1 complimentary copy of the issue in which the article is published.

Reprints may be obtained through:Dave Beroisa (440) 891-2704.

Address manuscripts and other submissions to

Margaret Mulligan
Editor-in-Chief
Geriatrics
24950 Country Club Blvd.
Suite 200
North Olmsted, OH 44070

For inquiries:
P: **(440) 891-2733**
F: **(440) 891-2683**
mmulligan@advanstar.com